

LESSONS LEARNED FROM RECENT TA-53 INCIDENTS

OCCURRENCE: Spill of an Estimated 130 to 150 Gallons of Oil

SYNOPSIS: On Tuesday, June 10, 1997, at approximately 1030 hours, a transformer drain was damaged while the transformer being repositioned on a truck by a forklift. The original estimate was that less than 100 gallons of oil had been lost to the environment. The spill occurred in close proximity to a storm drain but fast action by personnel at the scene (and the fortuitous availability of shovels) prevented an oil release to the adjacent canyon. The spill was cleaned up by JCI and the resulting oil-contaminated dirt is awaiting disposal as of Aug .

A critique was held on Wednesday, June 11, 1997. During the critique it was learned that approximately 130 gallons of oil had been spilled. At that time the occurrence category was upgraded from Off-Normal to Unusual. There was no impact to the health and safety of employees or the program.

Lessons Learned: An observer may be needed when performing forklift operations with vessels containing substances which could endanger safety or the environment. Spill control equipment or materials should be readily available when handling such vessels.

OCCURRENCE: Radiological Control Technician Finds Three Employees in a Controlled Area Without Required Dosimetry

SYNOPSIS: On Wednesday, July 9, 1997, at approximately 1130 hours, a Los Alamos National Laboratory (LANL) Health Physics Operations (ESH-1) Radiological Control Technician (RCT) was called to make an entry into Technical Area 53, building 3N (TA-53-3), Line B. When the RCT arrived, she found that three of the five people waiting at the Line B door were not wearing a Thermoluminescent Dosimeter (TLD). The outdoor area in the vicinity of MPF-3M and MPF-3N is posted as a Controlled Area requiring the use of TLDs. There was no impact to the environment or the program. The five personnel had been in MPF-1 and had gone to Line B to check on some equipment during a short beam outage. Two had left their dosimeters in their offices, the other (a subcontractor) had not been assigned dosimetry.

Lessons Learned: Management is responsible for ensuring that employees and visitors are assigned appropriate dosimetry. Individuals are responsible for observing radiological postings and wearing appropriate dosimetry.

OCCURRENCE: Discovery of Radiologically Activated Cables in a Subcontractor Vehicle

SYNOPSIS: On Monday, July 28, 1997, at approximately 1440 hours, a subcontractor vehicle activated the gate alarm at Technical Area 53 (TA-53). Survey of the contents of the vehicle revealed two cable samples which had been activated by exposure to the neutron flux in PSR. The maximum activation detected was 1.6 millirem (mrem) per hour. On contact, beta/gamma, non-removable. The conversion from mrem to disintegrations per minute (dpm) resulted in a reading of 112,000 dpm. The cables were not surveyed upon removal from PSR because the RCT thought the items were to be disposed of as low-level waste. The LANSCE-6 employee who took the cables failed to ensure that a radioactive material survey tag was attached. There was no impact to the health and safety of personnel, the environment, or the program.

Lessons Learned: Incorrect assumptions can result in inadequate assessment of hazards and insufficient hazard controls. Control of radioactive materials depends on communication between support and operations personnel.

NON-REPORTABLE INCIDENT: Suspected acute tellurium exposure

SYNOPSIS: An individual preparing small samples containing tellurium experienced symptoms including dizziness, nausea, and sleeplessness after the activity. After loading of several sample vessels compounds

which included tellurium, the vessels were moved to another building to tack weld molybdenum caps on them. Controls during loading consisted of an exhaust hood, two pair of rubber gloves, a dust mask, and safety glasses. The employee was new to the task, which had been performed for years by a recent retiree. After the welding was thought to be complete, the contents of one vessel were inadvertently spilled onto aluminum foil which had been placed on the work surface. The employee used the foil to pour the contents back into the vessel, and the cap was re-welded. During welding there was no local exhaust, though a window was open and two fans were placed at the work area, drawing air away from the employee. Other controls during welding included rubber gloves, safety glasses, and (at times) a dust mask. The employee also used nickel (a carcinogen) slivers to aid the weld process. The task was infrequent, and the retiree had trained the employee prior to his departure. There was no SWP or SOP covering the operation. Since the employee thought the symptoms might be from a recurring infection, diagnosis was delayed and analysis results were inconclusive. The incident was non-reportable because lost work days or hospitalization were not involved.

Lessons Learned: The hazard identification and controls steps of the five-step process must be conscientiously applied to any hazardous activity. Detailed written procedures should be developed and maintained for infrequent hazardous activities. Personnel should be familiar with MSDSs prior to working with hazardous materials, and an industrial hygiene evaluation should be obtained for first-time or unfamiliar activities.